



BOARD OF SUPERVISORS  
AGENDA LETTER

Agenda Number:

Clerk of the Board of Supervisors  
105 E. Anapamu Street, Suite 407  
Santa Barbara, CA 93101  
(805) 568-2240

**Department Name:** Water Agency  
**Department No.:** 054  
**For Agenda Of:** October 4, 2016  
**Placement:** Administrative  
**Estimated Tme:** N/A  
**Continued Item:** No  
**If Yes, date from:**  
**Vote Required:** Majority

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**TO:** Board of Directors, Water Agency

**FROM:** Department Scott D. McGolpin, Public Works Director, 568-3010  
Director(s)  
Contact Info: Thomas D. Fayram, Deputy Public Works Director, 568-3436

**SUBJECT:** Cloudseeding Program 2016-17, All Supervisorial Districts

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**County Counsel Concurrence**

As to form: Yes

**Auditor-Controller Concurrence**

As to form: Yes

**Other Concurrence:** Risk Management and  
Planning & Development  
As to form: Yes

**Recommended Actions:**

- a) Approve the 2016-2017 Cloudseeding Program and authorize the Chair to execute the agreement with North American Weather Consultants (not a local vendor) for cloudseeding for the period of October 4, 2016 through June 30, 2017 unless earlier terminated, in an amount not to exceed \$351,925;
- b) Consider the 2016 Addendum to the Mitigated Negative Declaration 13NGD-00000-00011 which the Board adopted on October 15, 2013; and
- c) After considering the Mitigated Negative Declaration and the 2016 Addendum to the Mitigated Negative Declaration, determine pursuant to California Environmental Quality Act Guidelines Section 15162(a) that no subsequent Environmental Impact Report or Negative Declaration is required for this project because: 1) No substantial changes are proposed in the project which require major revisions of the Mitigated Negative Declaration; 2) No substantial changes have occurred with respect to the circumstances under which the project is undertaken which require major revisions of the Mitigated Negative Declaration; and 3) No new information of substantial importance concerning the project's significant effects or mitigation measures exists which was not known and could not have been known with the exercise of reasonable diligence at the time that the Mitigated Negative Declaration was adopted on October 15, 2013. The Mitigated Negative Declaration is located at:

<https://santabarbara.legistar.com/LegislationDetail.aspx?ID=1488396&GUID=8B49D500-ED74-4C50-BB4A-AEDBCBA813BE>

**Summary Text:**

This item is on the agenda in order to approve the 2016-17 Cloudseeding Program. The agreement with North American Weather Consultants (NAWC) provides for a ground and aerial based cloudseeding program, similar to programs conducted during the last 36 years (excluding the 1985-1986 winter after the Wheeler Fire and the 2007-2008 winter after the Zaca Fire). The program was bid in 2014 as a “professional services contract” with the option to re-hire the contractor without re-bidding for three years and NAWC was awarded the contract. There are no local cloudseeding vendors. This year's proposed program targets the Twitchell Reservoir Watershed and the Lake Cachuma Watershed. Seeding operations will be conducted November 1, 2016 – April 30, 2017 given suitable conditions. Should suitable conditions occur and provided NAWC's setup is complete, operations may proceed prior to November 1. This year's program will consist of five months of ground and three months of aerial seeding of the target locations. An additional month of ground operations will be conducted in the Twitchell Reservoir Watershed at the request of the Twitchell associated water purveyors.

Alignment with other River System Interests and Safety Concerns

Special suspension criteria have been established to avoid any undesirable effects from the program. No targeting of or seeding operations which affect the urbanized areas of the south coast or any other urban areas will be conducted, only backcountry watersheds behind the two major reservoirs. When it is apparent that Twitchell Reservoir or Lake Cachuma will fill or flows on the Cuyama or Santa Ynez River and other tributaries that feed into the Reservoirs approach significant volume, seeding operations shall be suspended. The program includes operational constraints designed to preclude or limit seeding effects over flood sensitive areas. For example, cloud seeding operations shall be suspended in the Santa Ynez River Watershed when Water Agency staff project the potential of adverse results following the Rey Fire. Additionally, selective targeting procedures in the Santa Ynez River Watershed may be used to avoid the Rey Fire burn area completely. The Flood Control District's existing storm monitoring capabilities are augmented by the meteorological monitoring services provided by the contractor's certified meteorologist using sophisticated radar capability. As a standard practice, the Flood Control District retains final decision-making authority over all seeding operations for safety reasons.

Special Rey Fire Considerations

The Rey fire recently burned approximately 33,000 acres of the Santa Ynez River watershed above Cachuma Reservoir which is in the target area for Cloudseeding. To address concerns over water supply, sedimentation, and the current drought, the Water Agency discussed the options for seeding this winter in the Santa Ynez Target Area with the Cachuma Member Units. All parties agreed that we would conduct seeding this winter with special attention given to the fire area. Staff will work with the Contractor to limit seeding early and avoid higher intensity rainfall event to mitigate increased erosion in the burn area. The seeding will be adaptively managed as the winter progresses and increased seeding will take place as appropriate given ground and Cachuma Reservoir conditions. In addition, the Flood Control District will be installing a temporary real time rainfall gauge in the burn area which has been standard practice on previous fires.

Compliance with the California Environmental Quality Act (CEQA)

On October 15, 2013, your Board approved Mitigated Negative Declaration (MND) 13NGD-00000-00011 pursuant to the CEQA Guidelines. The Planning and Development Department reviewed the proposed 2016-2017 program and made the finding that CEQA Guidelines Section 15164 is applicable. CEQA Guidelines Section 15164 allows an addendum to be prepared when only minor technical changes are proposed in the project or changes which would not create new significant impacts. Thus no additional review is required.

**Background:**

The cloudseeding program uses state of the art methods accepted by the Department of Water Resources to augment rainfall in designated target areas by injection of silver iodide into the cloud mass. Acting as artificial condensation nuclei, the silver iodide promotes the formation of raindrops in addition to those forming by natural processes. Cloudseeding has long been recognized as a cost effective supplemental water supply alternative and, for that reason, has been an ongoing operational program of the County Water Agency since 1981. Due to its ideal setting for certain types of operations, Santa Barbara has been the focus of numerous cloudseeding research programs dating back to the early 1950’s. Local research programs have been sponsored by the University of California, National Science Foundation, U.S. Forest Service, Naval Weapons Center China Lake, U.S. Weather Bureau, and the National Science Foundation. Policy statements by both the American Meteorological Society in 1998 and World Meteorological Organization in 2007 support the effectiveness of winter orographic cloudseeding projects.

Currently, Twitchell Reservoir is empty and has approximately 105,000 acre-feet of water conservation pool storage space available. Twitchell Reservoir reclaims storm runoff for recharge of the Santa Maria Groundwater Basin. Lake Cachuma currently has over 177,000 acre-feet of storage space available.

NAWC performed an historical target/control analysis of this program for the Water Agency in 2013 and the results of this analysis were published in the *Journal of Weather Modification, Vol. 47* in 2014. The average results for all the seeded seasons were:

- Upper Santa Ynez Target Area: Estimated a 19% to 21% increase in precipitation (24 seeded seasons).
- Twitchell Reservoir Watershed Target Area: Estimated a 9% increase in precipitation (27 seeded seasons).

**Fiscal and Facilities Impacts:**

Budgeted: Yes

**Fiscal Analysis:**

<u>Funding Sources</u>	<u>Current FY Cost:</u>	<u>Annualized On-going Cost:</u>	<u>Total One-Time Project Cost</u>
Water Agency Funds	\$ 175,962.50		
Local Water Purveyors	\$ 175,962.50		
Total	\$ 351,925.00	\$ -	\$ -

**Narrative:**

The program cost continues to be 50/50 cost share between the Water Agency and the participating local water districts with the Water Agency staff providing administration of the project. This arrangement is considered equitable because the areas in the county located outside of water districts' service areas derive much of the benefit from the cloudseeding program.

This program was included in 2016-17 adopted budget under the Water Resources Division of the Public Works Department as identified on page D-302 in the budget book.

No General Fund monies will be utilized with this program.

**Key Contract Risks:**

Key contract risk factors for this agreement are low.

**Special Instructions:**

Direct the Clerk of the Board to send two originals of the Agreement with NAWC and a copy of the minute order to the Water Agency office, Attn: Christina Lopez

**Attachments:**

Attachment A - Agreement for Services of Independent Contractor w/NAWC (3 originals)  
includes contract summary

Attachment B - 2016 Addendum to MND 13-NGD-00000-00011

**Authored by:**

Matthew C. Scudato, Senior Hydrologist, 568-3582